cohere h e A L T H

General Shoulder Pain

Clinical Guidelines for Medical Necessity Review

Version:2.0Effective Date:December 29, 2022

Important Notices

Notices & Disclaimers:

GUIDELINES SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION MAKING OF END USERS.

Cohere Health, Inc. ("**Cohere**") has published these clinical guidelines to determine the medical necessity of services (the "**Guidelines**") for informational purposes only and solely for use by Cohere's authorized "**End Users.**" These Guidelines (and any attachments or linked third party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision-making of any kind; their sole purpose and intended use are to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

©2022 Cohere Health, Inc. All Rights Reserved.

Other Notices:

CPT copyright 2019 American Medical Association. All rights reserved. CPT is a registered trademark of the American Medical Association.

Guideline Information:

Specialty Area: Diseases & Disorders of the Musculoskeletal System (M00-M99)
Care Path Group: Shoulder
Care Path Name: General Shoulder Pain (M25, M70, M76, S76)
Type: [X] Adult (18+ yo) | [_] Pediatric (0-17yo)

Physician Author: Edwin Spencer, MD **Peer-reviewed/edited by:** Brian Covino, MD (Orthopedic Surgeon, Knee/Hip & Total Joint Replacement), Traci Granston, MD (Orthopedic Surgeon) **Literature review current through**: December 29, 2022 **Document last updated:** December 29, 2022

Table of Contents

Important Notices	2
Care Path Clinical Discussion	5
Key Information	5
Definitions	6
Care Path Diagnostic Criteria	9
Disease Classification	9
ICD-10 Codes Associated with Classification	9
Presentation and Etiology	10
Causes and Risk Factors	10
Clinical Presentation	10
Typical Physical Exam Findings	11
Typical Diagnostic Findings	11
Care Path Services & Medical Necessity Criteria	13
Conservative Therapy	13
Service: Physical Therapy	13
General Guidelines	13
Medical Necessity Criteria	13
Indications	13
Non-Indications	13
Site of Service Criteria	14
Non-Surgical Management	20
Service: Corticosteroid Injection	20
General Guidelines	20
Medical Necessity Criteria	20
Indications	20
Non-Indications	20
Site of Service Criteria	20
Procedure Codes (HCPCS/CPT)	21
Service: Diagnostic Ultrasound with Corticosteroid injection	22
General Guidelines	22
Medical Necessity Criteria	22
Indications	22
Non-Indications	22
Site of Service Criteria	22
Procedure Codes (HCPCS/CPT)	22

Clinical Guideline Revision History/Information	34
References	32
Procedure Codes (HCPCS/CPT)	30
Site of Service Criteria	30
Non-Indications	30
Indications	30
Medical Necessity Criteria	30
General Guidelines	30
Service: Ultrasound	30
Procedure Codes (HCPCS/CPT)	29
Site of Service Criteria	29
Non-Indications	29
Indications	28
Medical Necessity Criteria	28
General Guidelines	28
Service: Magnetic Resonance Arthrogram	28
Procedure Codes (HCPCS/CPT)	27
Site of Service Criteria	26
Non-Indications	26
Indications	26
General Guidelines	26
Service: Magnetic Resonance Imaging (MRI)	26
Procedure Codes (HCPCS/CPT)	20 25
Site of Service Criteria	24
Non-Indications	24 97
Medical Necessity Criteria	24 97
General Guidelines	24
Sorvice: Computed Tomography Arthrogram	23
Brocoduro Codos (HCPCS/CPT)	20 23
Site of Service Criteria	20
Non Indications	23
Medical Necessity Criteria	23
	23
Service: Computed Tomography (CT) without contrast	23
	23
Advanced Imaging	າວ

Care Path Clinical Discussion

The reported annual incidence of shoulder pain in the primary care setting is 14.7 per 1000 patients, with a lifetime prevalence as great as 70%.¹ In the clinical setting, patient demographics, occupation, location of pain, history of trauma, and medical history can give clues about the diagnosis when a patient presents with shoulder pain.

There are many pathologies that present with general shoulder pain, such as adhesive capsulitis, subacromial impingement, biceps tendonitis, subacromial bursitis, rotator cuff tendonitis, etc. Once a concrete diagnosis is made, then proceed to that pathway.

The information contained herein gives a general overview of the pathway of cartilage disorders, beginning with initial presentation, recommended assessments, and treatment options as supported by the medical literature and existing guidelines. It should be noted that the care of musculoskeletal injuries can be complex. The information below is meant to support clinical decision making in adult patients. It is not necessarily applicable to every case, as the entire clinical picture (including comorbidities, history, etc.) should be considered.

Key Information

- Many patients initially present to their primary care physician or orthopedist for shoulder pain. For the purpose of this care path, shoulder pain refers to pain within the shoulder proper. This is different from shoulder blade pain, which frequently refers from the spine.
- Early frozen shoulders typically present as atraumatic shoulder pain in diabetics or females aged between 40 to 60 years. This is usually associated with some passive loss of motion. In contrast, rotator cuff tendonitis and subacromial bursitis/tendonitis are typically not associated with passive loss of motion. These are typically associated with lateral deltoid pain with overhead activity.
- One common misstep is to obtain an MRI due to pain severity. Adhesive capsulitis (frozen shoulder) can be very painful. However, if there is a history of trauma, MRI or ultrasound is indicated.
- If patients present with a passive loss of range of motion, consider a glenohumeral joint corticosteroid injection and physical therapy. If patients present with lateral deltoid pain, consider a subacromial corticosteroid injection and physical therapy. If corticosteroid use is contraindicated, or if patients decline an injection, use oral steroids or anti-inflammatory medications.

Physical therapy alone can be aggravating for inflammatory processes. Consider some form of pain management, such as corticosteroids (orally or by injection), anti-inflammatory medication, or topical agents.

Definitions

Pathologies

- **Subacromial Impingement**: A pinching of the superior rotator cuff or subacromial bursa associated with decreased subacromial space. Patients typically present with lateral deltoid pain associated with overhead activity and positive Hawkins or Neer impingement testing.
- **Subacromial Bursitis:** Characterized by an inflammation of the subacromial bursa, this can be associated with subacromial impingement or present as a primary pathology. Patients typically present with lateral deltoid pain associated with overhead activity and positive Hawkins or Neer impingement testing.
- Rotator Cuff Tendonitis: A painful inflammation of the rotator cuff tendon(s). Patients typically complain of lateral deltoid pain associated with overhead activities that may radiate to the mid-brachium, and pain with resisted abduction with the arm pronated.
- Adhesive Capsulitis: A painful inflammation of the glenohumeral joint capsule. The condition occurs in 3 stages. An initial, painful synovitic phase is associated with pain at the end range of motion. This is followed by a thickening of the glenohumeral joint capsule and passive loss of range of motion. The final phase is the thawing phase, where pain begins to decrease and the range of motion returns.
- **Biceps Tendonitis:** Characterized by painful inflammation of the long head of the biceps tendon. Patients usually present with anterior shoulder pain with or without lateral deltoid pain, along with painful resisted abduction with the arm fully supinated and positive Speed's and upper cut test.
- **Mild arthritis**: Presents with pain and loss of motion similar to adhesive capsulitis but is associated with mild decrease in joint space and small calcar osteophyte.

<u>Tests</u>

- Hawkins/Kennedy Test: Shoulder pain elicited by internal rotation with the elbow flexed and the arm abducted
- Neer Impingement Test: Pain at the end of a forward elevation arc with the scapula stabilized
- **Range of Motion (ROM):** Pain with shoulder ROM (e.g., forward flexion, abduction, internal rotation, external rotation)
- **Speed's Test:** Reproduction of pain with resisted forward flexion of the shoulder with the arm extended and supinated

• Tenderness: Tenderness when palpating the shoulder

General Shoulder Pain

What is a "Cohere Care Path"?

These Care Paths organize the services typically considered most clinically optimal and likely to be automatically approved. These service recommendations also include the suggested sequencing and quantity or frequency determined clinically appropriate and medically necessary for the management of most patient care scenarios in this Care Path's diagnostic cohort.

		Non-Surgical Management	Surgical Management
Diagnostics	Radiography	•	
Conservative	Anti-Inflammatory or Pain Management	•	
Therapy	Physical Therapy PA,*		>
	Diagnostic Ultrasound		lon-S
	Magnetic Resonance Imaging (MRI) PA*	୍ କ୍ ମୁ	urgic
Advanced Imaging	Magnetic Resonance Arthrogram (MRA) PA		al Ma
	Computed Tomography (CT) w/o contrast PA*	•	anage
	Computed Tomography Arthrogram PA		emen
Non-Surgical	Corticosteroid injection		
Management	Corticosteroid injection, Ultrasound Guidance		
			1

Key

- PA = Service may require prior authorization
- * = Denotes preferred service
- AND = Services completed concurrently
- OR = Services generally mutually exclusive
- , = Non-surgical management prior authorization group of services
- Surgical management prior authorization group of services
 - = Subsequent service
 - = Management path moves to a different management path

Care Path Diagnostic Criteria

Disease Classification

General shoulder pain or shoulder pain of unknown origin.

ICD-10 Code	Code Description/Definition
M25.51	Pain in shoulder
M25.511	Pain in right shoulder
M25.512	Pain in left shoulder
M25.519	Pain in unspecified shoulder
M79.601	Pain in right arm
M79.602	Pain in left arm
M79.603	Pain in arm, unspecified
M79.621	Pain in right upper arm
M79.622	Pain in left upper arm
M79.629	Pain in unspecified upper arm
M25.61	Stiffness of shoulder, not elsewhere classified
M25.611	Stiffness of right shoulder, not elsewhere classified
M25.612	Stiffness of left shoulder, not elsewhere classified
M25.619	Stiffness of unspecified shoulder, not elsewhere classified
M25.81	Other specified joint disorders, shoulder
M25.811	Other specified joint disorders, right shoulder
M25.812	Other specified joint disorders, left shoulder
M25.819	Other specified joint disorders, unspecified shoulder
M25.31	Other instability, shoulder
M25.311	Other instability, right shoulder
M25.312	Other instability, left shoulder
M25.319	Other instability, unspecified shoulder

ICD-10 Codes Associated with Classification

Presentation and Etiology

Causes and Risk Factors

- Adhesive capsulitis is an inflammatory disease process found in patients with pro-inflammatory risk factors, including patients with thyroid dysfunction and other metabolic diseases.
 - The modifiable risk factors are:
 - Elevated blood glucose
 - Uncontrolled metabolic disease
- Subacromial impingement is a chronic decrease in the subacromial space leading to superior rotator cuff pinching and subacromial bursa. It is most commonly associated with repetitive overhead activity and can be associated with a partial rotator cuff tear and tendinopathy.
 - The modifiable risk factors are:
 - Repetitive overhead activity
- Rotator cuff tendonitis is a painful inflammation of the rotator cuff tendons. It is most commonly associated with repetitive overhead activity and may be associated with subacromial impingement.
 - The modifiable risk factors are:
 - Repetitive overhead activity

Clinical Presentation

- Adhesive capsulitis is most common in diabetics and females aged 40-60 years.
 - Symptoms include:
 - Shoulder pain
 - Weakness
 - Stiffness
 - Common pain characteristics include:
 - Pain associated with a passive loss of range of motion, typically beginning with a loss of internal rotation
 - Pain at an end range of motion, in early stages
 - Pain that may worsen at night.
- Subacromial impingement is most common in patients that participate in repeated overhead activities, such as postal and factory line workers.
 - Symptoms include:
 - Shoulder pain
 - Weakness
 - Common pain characteristics include:
 - Pain may worsen at night.
 - Pain may worsen with abduction.

- Pain exacerbates with overhead activity.
- Rotator cuff tendonitis is most common in patients involved in repetitive overhead activity or throwing.
 - Symptoms include:
 - Shoulder pain
 - Weakness.
 - Common pain characteristics:
 - Pain may worsen at night.
 - Pain may be exacerbated by abduction with the arm in pronation.
 - Pain exacerbates with overhead activity.

Typical Physical Exam Findings

- Adhesive capsulitis is primarily associated with a passive loss of motion. The following findings may present upon physical examination of the shoulder, always associated with some passive loss of motion:
 - Diffuse shoulder pain
 - Painful/decreased active range of motion
- Subacromial impingement is associated with painful Hawkins or Neer impingement testing and lateral deltoid pain. The following findings may present upon physical examination of the shoulder, singularly or in combination:
 - Positive Hawkins/Neer's Impingement
 - Lateral deltoid pain
 - Painful/decreased active range of motion
- Rotator cuff tendonitis is associated with painful active range of motion and weakness, particularly in abduction. The following findings may present upon physical examination of the shoulder, singularly or in combination:
 - Lateral deltoid pain that may or may not radiate to the mid-brachium or proximal biceps
 - Positive empty can testing
 - Painful active range of motion, particularly with abduction
 - Positive Hawkins or Neer impingement testing

Typical Diagnostic Findings

Plain-view shoulder radiographs are typically normal. There may be an associated subacromial spur.

Care Path Services & Medical Necessity Criteria

Conservative Therapy

Service: Physical Therapy

General Guidelines

- Units, Frequency, & Duration: There is no consensus recommendation for units, frequency, or duration.²
- **Criteria for Subsequent Requests:** The patient is progressing in range of motion (ROM), pain, or shoulder function but has not fully met all physical therapy (PT) goals.
- Recommended Clinical Approach: Physical therapy is an important part of conservatively managing general shoulder pain, in addition to non-narcotic medications.^{2,3} PT should include shoulder kinetics, stretching, distraction, ROM, and restoring function for normal activities of daily living (ADLs).⁴
- Exclusions: None.

Medical Necessity Criteria

Indications

- → Physical therapy is considered appropriate if ANY of the following is TRUE²⁻⁴:
 - The patient has **ANY** positive findings from the <u>presentation list</u>:
 - Insidious onset of pain in the shoulder and upper arm
 - Loss of motion; limitations in overhead activities
 - Weakness
 - Stiffness
 - The patient has **ANY** positive findings from the physical exam list:
 - Decreased active and passive range of motion (ROM)
 - Joint line tenderness
 - Positive impingement test

Non-Indications

None.

<u>Site of Service Criteria</u> Outpatient

Procedure Codes (HCPCS/CPT)Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
97010	Application of hot or cold packs
97012	Application of mechanical traction
97014	Application of electrical stimulation
97016	Application of vasopneumatic devices
97018	Application of paraffin bath
97022	Application of whirlpool
97024	Application of diathermy
97026	Application of infrared modality
97028	Application of ultraviolet modality
97032	Application of manual electrical stimulation
97033	Application of iontophoresis
97034	Application of contrast baths
97035	Application of ultrasound modality
97036	Application of Hubbard tank
97039	Modality service
97110*	Therapeutic exercises to develop strength and endurance, range of motion and flexibility
97112	Neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and proprioception for sitting and standing activities
97113	Aquatic therapy with therapeutic exercises
97116	Gait training including stair climbing

97124	Massage including effleurage and petrissage; Massage including effleurage and tapotement; Massage including effleurage, petrissage and tapotement; Massage including petrissage and tapotement
97139	Therapeutic procedure
97140	Manual therapy techniques
97150	Group therapeutic procedures
97164	Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient and family 20 minutes; Physical therapy re-evaluation of established plan of care, high complexity, typical time with patient's family 20 minutes
97530	Direct therapeutic activities with use of dynamic activities to improve functional performance, each 15 minutes
97535	Home management training, direct one-on-one contact, each 15 minutes; Self-care management training, direct one-on-one contact, each 15 minutes
97537	Community reintegration training, direct one-on-one contact, each 15 minutes; Work reintegration training, direct one-on-one contact, each 15 minutes
97542	Wheelchair management, each 15 minutes
97545	Work conditioning, initial 2 hours; Work hardening, initial 2 hours
97546	Work conditioning, each additional hour; Work hardening, each additional hour
97750	Physical performance measurement with written report, each 15 minutes; Physical performance test with written report, each 15 minutes
97755	Assistive technology assessment with written report, direct one-on-one contact, each 15 minutes

97760	Initial orthotic management and training with assessment and fitting of lower extremities and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremities, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity and trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of lower extremity, each 15 minutes; Initial orthotic management and training with assessment and training with assessment and fitting of trunk, each 15 minutes; Initial orthotic management and training with assessment and fitting of upper and lower extremities and trunk, each 15 minutes
97761	Initial prosthetic training of lower extremities, each 15 minutes; Initial prosthetic training of lower extremity, each 15 minutes Initial prosthetic training of upper and lower extremities, each 15 minutes; Initial prosthetic training of upper extremities, each 15 minutes; Initial prosthetic training of upper extremity, each 15 minutes
97763	Subsequent orthotic management and training of lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity and trunk, each 15 minutes Subsequent orthotic management and training of lower extremity, each 15 minutes Subsequent orthotic management and training of upper and lower extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities and trunk, each 15 minutes Subsequent orthotic management and training of upper extremities, each 15 minutes Subsequent orthotic management and training of upper extremities, each 15 minutes Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes Subsequent orthotic management and training of upper extremity and trunk, each 15 minutes Subsequent orthotic management and training of upper extremity, each 15 minutes

trunk, each 15 minutes
Subsequent orthotic management of lower extremity and trunk,
each 15 minutes
Subsequent orthotic management of lower extremity, each 15 minutes
Subsequent orthotic management of upper and lower
extremities and trunk, each 15 minutes
Subsequent orthotic management of upper extremities and
trunk, each 15 minutes
Subsequent orthotic management of upper extremities, each 15 minutes
Subsequent orthotic management of upper extremity and trunk, each 15 minutes
Subsequent orthotic management of upper extremity, each 15 minutes
Subsequent orthotic training of lower extremity, each 15 minutes
Subsequent orthotic training of upper and lower extremities and trunk, each 15 minutes
Subsequent orthotic training of upper extremities and trunk, each 15 minutes
Subsequent orthotic training of upper extremities, each 15 minutes
Subsequent orthotic training of upper extremity and trunk, each
Subsequent orthotic training of upper extremity, each 15 minutes
Subsequent prosthetic management and training of lower extremities and trunk, each 15 minutes
Subsequent prosthetic management and training of lower
extremity and trunk, each 15 minutes
Subsequent prosthetic management and training of lower
extremity, each 15 minutes
Subsequent prosthetic management and training of upper and
lower extremities and trunk, each 15 minutes
Subsequent prosthetic management and training of upper
extremities and trunk, each 15 minutes
Subsequent prosthetic management and training of upper

e	extremities, each 15 minutes
	Subsequent prosthetic management and training of upper
e	extremity and trunk, each 15 minutes
l l	Subsequent prosthetic management and training of upper
e	extremity, each 15 minutes
(Subsequent prosthetic management of lower extremities and
t	trunk, each 15 minutes
	Subsequent prosthetic management of lower extremity and
t	trunk, each 15 minutes
Ş	Subsequent prosthetic management of lower extremity, each
1	15 minutes
e	Subsequent prosthetic management of upper and lower extremities and trunk, each 15 minutes
t	Subsequent prosthetic management of upper extremities and trunk, each 15 minutes
	Subsequent prosthetic management of upper extremities, each
1	15 minutes
	Subsequent prosthetic management of upper extremity and
t	trunk, each 15 minutes
1	Subsequent prosthetic management of upper extremity, each
	Subsequent prosthetic training of lower extremity, each 15
r	minutes
	Subsequent prosthetic training of upper and lower extremities and trunk, each 15 minutes
	Subsequent prosthetic training of upper extremities and trunk,
	Subsequent prosthetic training of upper extremities, each 15
	minules
	subsequent prostnetic training of upper extremity and trank,
	Subsequent prosthetic training of upper extremity each 15
ľ	minutes
	Subsequent orthotic management and training of lower
	extremities, each 15 minutes
	Subsequent orthotic management of lower extremities. each 15
r	minutes
	Subsequent orthotic training of lower extremities and trunk,

	each 15 minutes
	Subsequent orthotic training of lower extremities, each 15
	minutes
	Subsequent orthotic training of lower extremity and trunk, each
	Subsequent prosthetic management and training of lower
	extremities, each 15 minutes
	Subsequent prosthetic management of lower extremities, each
	15 minutes
	Subsequent prosthetic training of lower extremities and trunk, each 15 minutes
	Subsequent prosthetic training of lower extremities, each 15 minutes
	Subsequent prosthetic training of lower extremity and trunk, each 15 minutes
97799	Unlisted physical medicine/rehabilitation service or procedure
420	Physical Therapy
421	Physical Therapy: Visit Charge
422	Physical Therapy: Hourly Charge
423	Physical Therapy: Group Rate
424	Physical Therapy: Evaluation/Re-evaluation
429	Physical Therapy: Other Physical Therapy
97163	Evaluation of physical therapy, typically 45 minutes
97161	Evaluation of physical therapy, typically 20 minutes
97162	Evaluation of physical therapy, typically 30 minutes
97168	Re-evaluation of occupational therapy established plan of care, typically 30 minutes
97165	Evaluation of occupational therapy, typically 30 minutes
97166	Evaluation of occupational therapy, typically 45 minutes
97167	Evaluation of occupational therapy established plan of care, typically 60 minutes
G0151	Hhcp-serv of pt,ea 15 min

*Default codes for suggested services

Non-Surgical Management

Service: Corticosteroid Injection

General Guidelines

- Units, Frequency, & Duration: None.
- Criteria for Subsequent Requests: None.
- **Recommended Clinical Approach:** Pain relief from a subacromial shoulder injection supports a subacromial impingement or bursitis diagnosis. Pain relief from an intra-articular shoulder injection supports a diagnosis of intra-articular pathology, such as arthritis or adhesive capsulitis.²⁻³
- Exclusions: None.

Medical Necessity Criteria

Indications

- → Corticosteroid injections may be medically appropriate if ALL of the following are TRUE²⁻³:
 - The patient has **1 or more** positive findings from:
 - The <u>clinical presentation list</u>:
 - Shoulder pain
 - Weakness
 - Stiffness
 - The physical exam findings list:
 - Loss of motion
 - Positive impingement test
 - Subacromial or joint line tenderness

Non-Indications

- → Corticosteroid injections may not be medically appropriate if ANY of the following is TRUE⁵:
 - The patient has uncontrolled diabetes.

Site of Service Criteria

Outpatient

HCPCS Code	Code Description/Definition
20610	Arthrocentesis, aspiration and/or injection, major joint or bursa shoulder, hip, knee, subacromial bursa); without ultrasound guidance; Large joint injection

Service: Diagnostic Ultrasound with Corticosteroid injection

General Guidelines

- Units, Frequency, & Duration: None.
- Criteria for Subsequent Requests: None.
- **Recommended Clinical Approach**[®]: Pain relief from a subacromial shoulder injection supports a subacromial impingement or bursitis diagnosis. Pain relief from an intra-articular shoulder injection supports a diagnosis of intra-articular pathology, like arthritis or adhesive capsulitis.
- Exclusions: None.

Medical Necessity Criteria

Indications

- → Ultrasound injections may be medically appropriate if ALL of the following are TRUE⁶⁻⁷:
 - The patient has **1 or more** positive findings from:
 - The clinical presentation list:
 - Shoulder pain
 - Weakness
 - Stiffness
 - The physical exam findings list:
 - Loss of motion
 - Positive impingement test
 - Subacromial or joint line tenderness

Non-Indications

- → Ultrasound injections may not be medically appropriate if ANY of the following is TRUE⁵:
 - The patient has uncontrolled diabetes.

Site of Service Criteria

Outpatient

HCPCS Code	Code Description/Definition
20611	Large joint injection with ultrasound guidance

Advanced Imaging

Service: Computed Tomography (CT) without contrast

General Guidelines

- Units, Frequency, & Duration: None.
- Criteria for Subsequent Requests: None.
- Recommended Clinical Approach^{Z-8}:
 - CT may be appropriate for characterizing fracture patterns and surgical planning.⁸
 - Medial clavicle fractures may require a CT.
 - Although most scapular fractures are treated nonoperatively, many require a non-contrast CT to define the fracture pattern and the extent of glenoid involvement.
- Exclusions: None.

Medical Necessity Criteria

Indications

- \rightarrow CT is considered appropriate if ALL of the following are TRUE⁷⁻⁸:
 - Evaluation of fracture patterns and displacement to determine the appropriate treatment

Non-Indications

None.

Site of Service Criteria

Outpatient

HCPCS Code	Code Description/Definition	
73200	Computed tomography (CT) of upper extremity without contrast material	
73201	CT scan of arm with contrast	

Service: Computed Tomography Arthrogram

General Guidelines

- Units, Frequency, & Duration: None.
- Criteria for Subsequent Requests: None.
- **Recommended Clinical Approach:** Contrast-enhanced computed tomography (CT) is a back up technique for visualizing rotator cuff tendons in patients who cannot undergo magnetic resonance imaging (MRI) or magnetic resonance arthrogram and who do not have access to ultrasonography. CT arthrograms are rarely used.^{Z-9}
- Exclusions: None.

Medical Necessity Criteria

Indications

- → Computed tomography arthrograms are considered appropriate for an acute rotator cuff tear if ALL of the following are TRUE:
 - The patient has 2 or more positive diagnostic tests.
 - The patient is unable to work or has significantly impacted activities of daily living (ADLs).
- → Computed tomography arthrograms are considered appropriate for a chronic rotator cuff tear if ALL of the following are TRUE:
 - The patient has 2 or more positive diagnostic tests.
 - Radiographs or other imaging studies were non-diagnostic.
 - The patient's pain, function, and strength have not improved after conservative therapy, including 6 weeks of physical therapy.
 - The patient's symptoms have persisted for more than 3 months, despite receiving optimal medical management.
- → Computed tomography arthrograms are considered appropriate for complications from a rotator cuff repair if ANY of the following is TRUE:
 - There is a suspected recurrent rotator cuff tear.
 - There are suspected postsurgical complications.

Non-Indications

- → Computed tomography arthrograms are not considered appropriate if ANY of the following is TRUE:
 - Imaging is generally not indicated for a suspected atraumatic rotator cuff tear unless the patient has failed a 6-week course of conservative care or has red flags or high-risk features.

 Imaging is not indicated in patients with full or limited movement and non-traumatic shoulder pain of fewer than a 4-week duration.

Site of Service Criteria

Outpatient

HCPCS Code	Code Description/Definition
23350	Injection procedure for enhanced CT arthrography of glenohumeral joint
73201	CT upper extremity; with contrast
73202	CT upper extremity; w/o contrast followed by contrast

Service: Magnetic Resonance Imaging (MRI)

General Guidelines

- Units, Frequency, & Duration: None.
- Criteria for Subsequent Requests: None.
- Recommended Clinical Approach:
 - Magnetic resonance imaging (MRI) may be indicated to assess rotator cuff, articular cartilage, or bony erosions.^{4.10}
 - MRI is rarely needed to confirm an adhesive capsulitis (AC) diagnosis.¹¹⁻¹³
 - MRI is frequently used to rule out other pathology.
 - MRI has poor sensitivity for proximal biceps tendon pathology, but concomitant shoulder pathology may raise clinical suspicion.¹⁴
 - MRI may be necessary to identify other shoulder pathologies, when the clinical picture is unclear, or for surgical planning.¹⁵
 - MRI can help evaluate rotator cuff integrity and assess for complications like tendon re-tear or suture anchor displacement.
 - MRI can evaluate the size and shape of a rotator tear, the amount of tendon retraction, the prominence of muscle atrophy, and the quality of the remaining rotator cuff (RC) tendon.
- **Exclusions:** None.

Medical Necessity Criteria

Indications

- \rightarrow MRI is considered appropriate if ALL of the following are TRUE¹⁶:
 - Patient has had a clinical evaluation with prior radiographs
 - Suspected disease or condition that would require MRI
 - Failure of conservative treatment to include **ANY** of the following:
 - 6 weeks of physical therapy
 - Corticosteroid injection
 - ◆ NSAID's in the absence of trauma¹⁰

Non-Indications

- \rightarrow MRI may not be appropriate if ANY of the following is TRUE¹⁷:
 - The patient has non-compatible implanted devices.
 - There are metallic intraocular foreign bodies.
 - The patient is claustrophobic.

Site of Service Criteria

Outpatient

HCPCS Code	Code Description/Definition
73219	Magnetic resonance imaging (MRI) of upper arm between shoulder and elbow with contrast material
73220	Magnetic resonance imaging (MRI) of upper arm between shoulder and elbow without contrast material, followed by contrast material and further sequences
73221	Magnetic resonance imaging (MRI) of glenohumeral joint without contrast material
73222	Magnetic resonance imaging (MRI) of glenohumeral joint with contrast material
73223	Magnetic resonance imaging (MRI) of glenohumeral joint without contrast material, followed by contrast material and further sequences
23350	Injection of dye for X-ray imaging of shoulder joint
73218	MRI scan of arm

Service: Magnetic Resonance Arthrogram

General Guidelines

- Units, Frequency, & Duration: None.
- Criteria for Subsequent Requests: None.
- **Recommended Clinical Approach:** Magnetic resonance (MR) arthrogram is recommended for younger (aged under 40 years), athletic patients with a suspected partial tear or possible labral pathology. Full-thickness tears are easier to diagnose on MR arthrogram than partial-thickness tears. MR arthrograms can accurately detect rotator cuff lesions such as partial articular supraspinatus tendon avulsions and concealed interstitial delaminations. Reserve MR arthrograms for cases where traditional imaging methods do not clearly delineate the suspected abnormality. Magnetic resonance arthrograms are particularly useful in assessing partial-thickness rotator cuff tears, which can be overestimated or underestimated on non-contrast images.^{9,18-21}
- Exclusions:
 - Pain that is related to the cervical spine
 - Scapular pain
 - Glenohumeral arthritis
 - Inflammatory arthritis
 - Adhesive capsulitis
 - Previous proximal humeral fracture
 - Bi-lateral rotator cuff tears
 - Dementia

Medical Necessity Criteria

Indications

- → Magnetic resonance arthrograms are considered appropriate for a suspected acute rotator cuff tear if ALL of the following are TRUE:
 - The patient has 2 or more positive diagnostic tests.
 - The patient is unable to work or has significantly impacted activities of daily living (ADLs).
- → Magnetic resonance arthrograms are considered appropriate for a suspected chronic rotator cuff tear if ALL of the following are TRUE:
 - The patient has 2 or more positive diagnostic tests.

- Radiographs or other imaging studies were non-diagnostic.
- The patient's pain, function, and strength have not improved after conservative therapy, including 6 weeks of physical therapy.
- The patient's symptoms have persisted for more than 3 months, despite receiving optimal medical management.

Non-Indications

- → Magnetic resonance arthrograms are NOT considered appropriate if ANY of the following is TRUE:
 - Suspected atraumatic rotator cuff tear unless the patient has failed a 6-week course of conservative care or has red flags/high-risk features.
 - The patient has full or limited movement and non-traumatic shoulder pain of fewer than 4 weeks duration.
- → Magnetic resonance arthrograms may not be appropriate if ANY of the following are TRUE¹⁷:
 - The patient has non-compatible implanted devices.
 - There are metallic intraocular foreign bodies.
 - The patient is claustrophobic.
 - The benefits of gadolinium-enhanced MRI should be weighed against potential negative renal consequences.

Site of Service Criteria

Outpatient

HCPCS Code	Code Description/Definition
73225	MRA of upper extremity
,0220	MRA of upper extremity with contrast
	MRA of upper extremity without contrast
C8912	MRA with contrast, lower extremity
C8913	MRA without contrast, lower extremity
C8914	MRA without fol with contrast, lower extremity

Service: Ultrasound

<u>General Guidelines</u>

- Units, Frequency, & Duration: None.
- Criteria for Subsequent Requests: None.
- **Recommended Clinical Approach:** Ultrasound (US) is recommended when a patient cannot undergo magnetic resonance imaging (MRI) or a magnetic resonance arthrogram. The sensitivity and specificity of ultrasound for rotator cuff tears is comparable to standard MRI.
- Exclusions:
 - Pain that is related to the cervical spine
 - Scapular pain
 - Previous shoulder surgery
 - Glenohumeral arthritis
 - Inflammatory arthritis
 - Adhesive capsulitis
 - Previous proximal humeral fracture
 - Bi-lateral rotator cuff tears
 - Dementia

Medical Necessity Criteria

Indications

- → Ultrasound is considered appropriate if ANY of the following is TRUE^{Z-8}:
 - The patient is having a shoulder injection.
 - The patient requires a diagnostic shoulder ultrasound.

Non-Indications

None.

Site of Service Criteria

Outpatient

HCPCS Code	Code Description/Definition	
76881	Ultrasound, extremity, nonvascular, real-time with image documentation; complete	
76882	Ultrasound, extremity, nonvascular, real-time with image	

documentation; limited, anatomic specific	cific
---	-------

References

- Cadogan A, Laslett M, Hing WA, McNair PJ, Coates MH. A prospective study of shoulder pain in primary care: prevalence of imaged pathology and response to guided diagnostic blocks. BMC Musculoskelet Disord. 2011;12:119. Published 2011 May 28. doi:10.1186/1471-2474-12-119
- Ansok CB, Muh SJ. Optimal management of glenohumeral osteoarthritis. Orthop Res Rev. 2018;10:9-18. Published 2018 Feb 23. doi:10.2147/ORR.S134732
- 3. Gross C, Dhawan A, Harwood D, Gochanour E, Romeo A. Glenohumeral joint injections: a review. *Sports Health*. 2013;5(2):153-159. doi:10.1177/1941738112459706
- Saltzman BM, Leroux TS, Verma NN, Romeo AA. Glenohumeral Osteoarthritis in the Young Patient. J Am Acad Orthop Surg. 2018; 26(17): e361-e370.
- Waterbrook AL, Balcik BJ, Goshinska AJ. Blood Glucose Levels After Local Musculoskeletal Steroid Injections in Patients With Diabetes Mellitus: A Clinical Review. Sports Health. 2017;9(4):372–374. doi:10.1177/1941738117702585
- Daniels EW, Cole D, Jacobs B, Phillips SF. Existing Evidence on Ultrasound-Guided Injections in Sports Medicine. Orthop J Sports Med. 2018;6(2):2325967118756576. Published 2018 Feb 22. doi:10.1177/2325967118756576
- 7. American College of Radiology. ACR Appropriateness Criteria-Chronic Shoulder Pain. ACR.org. https://acsearch.acr.org/docs/3101482/ Narrative/. Revised 2022.
- 8. Amini B, Beckmann NM, Beaman FD, et al. ACR Appropriateness Criteria® Shoulder Pain–Traumatic. J Am Coll Radiol. 2018;15(5):S171 - S188.
- 9. Rhee RB, Chan KK, Lieu JG, Kim BS, Steinbach LS. MR and CT arthrography of the shoulder. Semin Musculoskelet Radiol. 2012;16(1):3-14. doi:10.1055/s-0032-1304297
- 10. American Academy of Orthopaedic Surgeons. Management of glenohumeral osteoarthritis: evidence-based clinical practice guidelines. https://www.aaos.org/gjocpg. March 23, 2020.
- 11. Redler LH, Dennis ER, Treatment of Adhesive Capsulitis of the Shoulder. J Am Acad Orthop Surg. 2019;27(12):e544-e554.
- 12. Ramirez J. Adhesive capsulitis: diagnosis and management. Am Fam Physician. 2019 Mar 1;99(5):297-300.
- 13. Small K, Adler RS, Shah SH, et al. ACR Appropriateness Criteria[®] Shoulder Pain-Atraumatic. *J Am Coll Radiol*. 2018;15(11): S388 - S402.
- 14. Malavolta EA, Assuncao JH, Guglielmetti CLB, et al. Accuracy of preoperative MRI in the diagnosis of disorders of the long head of the biceps tendon. *Eur J Radiol.* 2015;84(11):2250-4.

- Skendzel JG, Jacobson JA, Carpenter JE, Miller BS. Long head of biceps brachii tendon evaluation: accuracy of preoperative ultrasound. AJR Am J Roentgenol. 2011;197(4):942–8.
- 16. Tuite MJ, Small KM. Imaging Evaluation of Nonacute Shoulder Pain. AJR Am J Roentgenol. 2017;209(3):525-533. doi:10.2214/AJR.17.18085
- 17. American College of Radiology. ACR Practice Parameter for Performing and Interpreting Magnetic Resonance Imaging (MRI). *ACR.org.* Revised 2022.
- Balich SM, Sheley RC, Brown TR, et al. MR imaging of the rotator cuff tendon: interobserver agreement and analysis of interpretive errors. Radiology 1997; 204(1):191–4.
- 19. Smith TO, Daniell H, Geere JA, et al. The diagnostic accuracy of MRI for the detection of partial- and full-thickness rotator cuff tears in adults. Magn Reson Imaging 2012;30(3):336–46.
- 20. Jung JY, Jee WH, Chun HJ, et al. Magnetic resonance arthrography including ABER view in diagnosing partial-thickness tears of the rotator cuff: accuracy, and inter- and intra-observer agreements. Acta Radiol 2010;51(2):194–201.
- Spencer EE Jr, Dunn WR, Wright RW, et al. Interobserver agreement in the classification of rotator cuff tears using magnetic resonance imaging. Am J Sports Med 2008;36(1):99–103.

Clinical Guideline Revision History/Information

Original Date: January 1, 2022			
Review History			
December 29, 2022 (V.2)	Reviewing Physician: Dr. Edwin Spencer Approving Physician: Dr. Traci Granston		